Report: Trusting the Internet in Norway and in India

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Blue means its not a part of the original study and we decided to include it as something extra.

1 Introduction

Trust is the foundation of all communication, yet a profound question in business today is how can we psychologically understand trust behaviors in our new digital landscape?
In this study we apply items from five different validated scales to measure trust to investigate to what degree a users' perception of trust varies depending on their gender, age, or amount of time spent using social media. Using a convenience population sample (n=214) significant differences in levels of trusting behavior were found across gender, age, social media news feed preferences and extent of social media use.

We conducted an exploratory study combining five different validated measures of Integrity (Mayer Davis, 1999), Competence and Benevolence (McKnight, Choudhury, and Kacmar, 2002), Concern, and Identification (Shockley-Zalabak et al. 2000), to investigate whether

gender, age, or the amount of time spent using social media effects one's perception of trust.

We then go to a conceptual level and look at the development and validation of these five factor trust measurement scale. As an attempt to extrapolate from research on trust and social media offered, we do the same survey for the student community in India.

The main question we ask: Do social media users' perceptions of trust differ significantly with respect to their gender, age, social media usage and social media site preference?

2 Understanding the Parameters

We quantify trust using 5 validated measures, as defined by multiple statisticians in papers cited by Warner-Søderholm et, al,

2.1 Benevolence

Benevolence is one of the five major pillars used to define trust. A benevolent person is one who cares about the welfare of the others and is therefore motivated to act in their interest.
In order for benevolence to be present there must be at least two interacting parties, one being the trustee, and the other the trustor. Urbano et al. (2013) define it as the trustee receiving a feeling of goodwill toward the trustor. Whereas Lee et al. (2008) suggest that the trustee should show consideration and sensitivity to the needs and interests of the trustor in order for there to be a benevolent interaction.
As a dimension of trust, it includes the notion that two parties willingly serve one another's interest and has been linked to two personality traits - agreeableness and neuroticism, which are influenced by heredity, environment, time, and gender. Agreeableness is being helpful, cooperative and sympathetic toward others and neuroticism refers to the degree of emotional stability, impulse control and anxiety of an individual.
Benevolence is important in a social media newsfeed setting as without positive reciprocation, there would be no

social media sharing.

2.2 Integrity

Integrity is a basic characteristic of social human nature and a person is seen as having integrity when there is a consistent display of personal values, social values and behaviors in ordinary life, especially when in difficult settings.
Integrity, therefore, constitutes a strong moral character built on the foundations of decency, and respect. Some of the important characteristics of integrity are honesty, strength and virtue.
Studies suggest that people relate more to integrity in situations where an ethical decision has to be made.
Schlenker et al. (2009) state that integrity has played a major historical role and has helped build social relationships in communities.
Integrity applies to social media news sharing as without such ethical principles in online communities, they would no longer be sustainable.

2.3 Competence

Shockley-Zalabak et al. (2000) defined competence as having the ability or power to do what needs to be done for someone.
Rosenberg (2012) describes competence as being able to do something to meet expectations.
So, the significance of competence stems from the idea

of having trust in another person to finish a task.
Users of social media need to have the necessary tools to manage their newsfeeds on social media. In other words, they need to be competent users.
If competence is defined as having the ability or power to do what needs to be done, in a social media setting, it is crucial that each user shows competence in the posts that they write and share.

2.4 Identification

First, in the context of this study, we suggest that social networks are subsumed within groups and organizations. According to Foote (1951), relationships are formed from interactions that influence how we identify ourselves within a group or organization (in our case, within a social network.)
According to Shockley-Zalabak et al. (2000), identification refers to the extent to which we hold common goals, norms, values and beliefs associated with belonging to an organization or group.
Individuals who identify with an organization or group feel that shared experiences help establish trust and relationships.
Without this link between relationships and identification, we would all view certain aspects of the social world, such as trusting pen pals that have never met, with skepticism.
People with high social identity end up using social net-

works to a greater degree than others because they perceive encouragement for participation from social networks.

2.5 Concern

Concern is defined as the feelings of caring, empathy, tolerance and safety that are exhibited when others are vulnerable. Interpersonal care and concern over self-interests are critical for the development of trust.
When investing in trust relationships, people express genuine care and concern for each other's welfare.
As parties in groups continuously exchange information, relationships are formed between those parties. Repeated interactions of parties create an expansion of resources that involve information exchanged, status and concern. According Rousseau et al. (1998), social context such as social media and previous interactions with others shape how one perceives another's reputation and measurement of trustworthiness.
The warning here is that individuals and organizations should be aware of, and guard themselves against, any possible misuse of trust in social media situations.

When a person joins a social network site they are prompted to create a profile; this includes information such as name, birthday, photographs, hometown, and personal interests, among other things. They can then make connections with friends and others that are met on the site. The purpose of creating a profile is to con-

nect with family and/or friends or people who share the same ideologies and interests, thus creating an avenue for communication and developing/maintaining relationships. For successful online connections and interactions to occur, trust is important (. Usually successful interactions rely on the level of trust that friends have with each other. People post personal information on these sites, but can these sites and people on these sites be trusted not to reveal this information to others?

3 Design of the Experiment

As this present study intends to explore the relationships between perceptions of trust in the context of social media usage for gathering news, we employ a reliable and valid survey instrument in a new context. Such quantitative surveys collect information by asking specific questions and then coding the data in numerical form for appropriate statistical analyses.
The instrument employed in this study is an amalgamation based on existing constructs and measures from McKnight et al. (2002), Mayer and Davis (1999), and Shockley-Zalabak et al. (2000). Specifically, we borrowed items from McKnight, Choudhury, and Kacmar (2002) to measure Benevolence (5 items, = .82) and Competence (5 items, = .86). From Mayer and Davis (1999) we borrowed items to measure Integrity (5 items, = .87). Survey questions related to the constructs Identification (5 items, = .76) and Concern (5 items, = .87), were borrowed from Shockley-Zalabak et al. (2000). The questions used to measure relevant social media use were borrowed from www.marketest.co.uk (9 items). Additionally, the author also added 5 demographic questions, such as age, gender, and news and social media preference.

To maximize validity, this research used a survey methodology, with respondents who volunteered to take part in the study anonymously, in their own time. Our convenience sample comes from university students and staff as they are population of interest: individuals who are

typical users of news feeds on social media.
The authors set a target of a 3:1 respondent to item ratio in determining the target sample size. Such a ratio is within the threshold employed by many other studies.
Research confirms that university students form suitable samples for studies involving the internet because they tend to be frequent internet and social media users, this was the fundamental logic for adopting this sample.

The respondents were 85 males and 129 females. The age of the participants ranged from 19 to 67, years with an average age of 29.5 years and a mode age of 21 years. Categorized by status, the sample of 214 respondents included 64 staff and faculty members and 133 Bachelors and 17 Masters students. Research confirms that university students and staff and faculty form suitable samples for studies involving the internet because they tend to be frequent internet and social media users, this was our fundamental logic for adopting this sample.

STATISTICAL TOOLS USED:

- Outliers were removed (that was done in the dataset) and the scores were adjusted (i.e. 1 = Strongly disagree, 5 = Strongly Agree) so that a higher value means higher trust.
- Box plots were built for comparing two groups of sample.
- T-tests were conducted on those categories which had a minimum of 20 respondents in each group of the category.

- The two tailed t-tests were conducted assuming different variance if Levene's test of equality of variance was greater than 0.05. Otherwise equal variance was assumed.

  [** means $\alpha < 0.01$, * means $\alpha < 0.05$]

- Confidence Intervals were built for the difference of means of parameter scores for each group with 95 percent confidence intervals.

- Sample size required for our survey was calculated by setting sampling error and confidence level.

HOW WE PERFORMED ANALYSIS OF DATA:

First Levene's test (not done in class but was an important step in the paper, so we covered this part from Wikipedia) of variance was performed to test whether the variance of the groups being tested have an equal or unequal variance. We assume unequal variance if $p > 0.05$, where the p value is calculated by calculating the following F-statistic :

$$W = \frac{(N-k)}{(k-1)} \cdot \frac{\sum i = 1^k Ni(Z_{i\cdot} - Z_{\cdot\cdot})^2}{\sum i = 1^k \sum_{j=1}^{Ni} (Z_{ij} - Z_{i\cdot})^2},$$

where

• k is the number of different groups to which sampled cases belong (which will be 2 throughout these tests and the sample will always be broken down into a group and its complement)
• N is the total number of cases in all groups
• N_i is the number of cases in the i^{th} group
• Y_{ij} is the value of j^{th} variable og the i^{th} group

- $Z_{ij} = |Y_{ij} - \bar{Y}i\cdot|$, where $\bar{Y}i\cdot = \dfrac{1}{N_i}\sum j = 1^{Ni} Y_{ij}$
- $Z_{i\cdot} = \dfrac{1}{N_i}\sum j = 1^{Ni} Z_{ij}$ and $Z_{\cdot\cdot} = \dfrac{1}{N}\sum i = 1^{k} \sum_{j=1}^{Ni} Z_{ij}$

Then,

if the variance is unequal, Welch's t-test is performed, where

$$t = \frac{\bar{X}1 - \bar{X}2}{s_{\bar{\Delta}}}$$

where

$$s_{\bar{\Delta}} = \sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}}\text{ , and}$$

$$\text{d.f.} = \frac{\left(\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}\right)^2}{\frac{\left(s_1^2/n_1\right)^2}{n_1 - 1} + \frac{\left(s_2^2/n_2\right)^2}{n_2 - 1}}.$$

and if variance is equal, t-statistic is calculated as

$$s_p = \sqrt{\frac{(n_1 - 1)\, s_{X_1}^2 + (n_2 - 1)\, s_{X_2}^2}{n_1 + n_2 - 2}}\text{ , and}$$

$$df = n_1 + n_2 - 2.$$

We have included the questionnaire which was used to conduct the survey: (PTO)

APPENDIX 1 – Survey items used in the study

1. What is your gender (please circle one)?

   Male Female

2. What is your age?_____

3. What is your current status at university (please circle one)?

Freshman Sophomore Junior Senior Graduate Faculty/Staff

4. Which of the following social networking website are you a member of? (Check all that apply)

___ Facebook
___ LinkedIn
___ Google+
___ Twitter
___ YouTube
___ Instagram
___ Pinterest
___ Tumblr
___ Other, please specify_____
___ I do not use social media

Please indicate what information you include on your social networking sites

5. Email address
6. Hometown/City
7. Mobile Number
8. Photos of you or your family
9. Political Views
10. Relationship Status
11. Sexual Orientation
12. Other,
13. Please Specify_____

14. How often do you check your social media profile?

___ More than hourly
___ Hourly
___ Couple of Hours
___ Few times a day
___ Daily
___ Weekly
___ Monthly
___ I do not use social media

The following instructions prefaced the trust scale items. The anchors shown below were consistent throughout. Syntax details: aggregate scores of the 5 items per construct.

For the following questions, circle the number that you feel best describes you.

Strongly Agree	Mildly Agree	Neutral	Mildly Disagree	Strongly Disagree
1	2	3	4	5

15. In general, people really do care about the well-being of others. (Benevolence 1)
16. Most of the time, people care enough to try to be helpful, rather than just looking out for themselves. (Benevolence 2)
17. The typical person is sincerely concerned about the problems of others. (Benevolence 3)
18. In general, most people keep their promises. (Integrity 1)
19. Most people are honest in their dealings with others. (Integrity 2)
20. I always feel confident that I can rely on people to do their part when I interact with them. (Integrity 3)
21. I would characterize people I interact with as honest. (integrity 4).
22. People are sincere and genuine. (Benevolence 4)
23. People are truthful when they interact with me. (integrity 5)

If you use social media/social networking sites, the word "network" in the following questions means your online social networking. If you do not use social media/social networking sites, the word "network" means your circle of friends and relatives with whom you most interact.

24. People in my network really look out for what is important to me. (Benevolence 5)
25. People in my network are reliable in doing what they say will be done. (Competence 1)
26. People outside my network are reliable in doing what they say will be done. (Competence 2)
27. People in my network are effective in providing helpful advice. (Competence 3)
28. I feel people outside my network provide helpful advice. (Competence 4)
29. I feel confident in the trust I have with people in my network. (Competence 5)
30. I feel connected to people in my network. (Identification 1)
31. I feel connected to people outside my network. (Identification 2)
32. My values are similar to the values of people in my network. (Identification 3)
33. My values are similar to the values of people outside my network. (Identification 4)
34. People in my network listen to me. (Identification 5)
35. People outside of my network listen to me. (Concern 1)
36. People in my network are sincere with their efforts to communicate with me. (Concern 2)
37. I am sincere in communication efforts with people outside of my network. (Concern 3)
38. People in my network are concerned about my personal well-being. (Concern 4)
39. I am concerned about the well-being of individuals that are outside of my network. (Concern 5)

4 Results

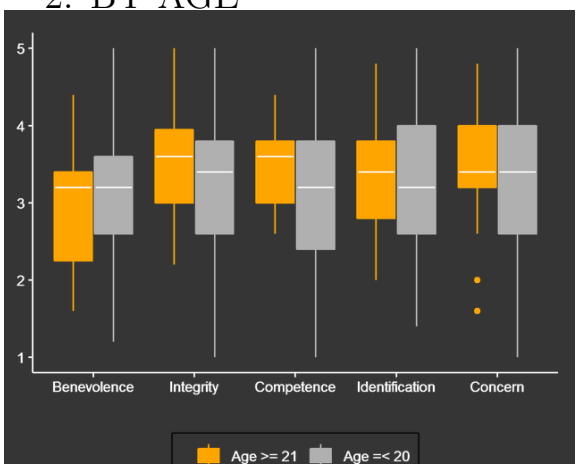
Now we divide the sample into two groups based on a parameter and then analyse if there is any significant difference in any construct. We only show the analysis that have a significant difference.
1. BY GENDER:

From this box plot comparing the trust values by gender, we observe that the median value is higher for female respondents in each parameter.
Most of the datasets we observe in these boxplots are almost symmetric.

	A	B	C	D	E	F
1		Benevolence	Integrity	Competence	Identification	Concern
2	Male mean	3.03	3.04	3.08	3.04	3.13
3	Female mean	3.11	3.39	3.3	3.34	3.39
4	Male sd	0.7	0.9	0.89	0.78	0.99
5	Female sd	0.85	0.83	0.85	0.82	0.94
6	t-statistic	t(201.6) = -0.74	t(212) = -2.94	t(208) = -1.75	t(208) = -2.65	t(208) = -1.92
7	p-value	0.4623	0.0036	0.0822	0.0086	0.0568
8	95% C.I.	[-0.29 ; 0.13]	[-0.59 ; -0.12]	[-0.45 ; 0.03]	[-0.53 ; -0.08]	[-0.53 ; 0.01]
9	n	85_129	85_129	83_127	83_127	83_127

In this comparison, there were 129 female and 85 male respondents.
For the construct of integrity, women (M = 3.39, SD = 0.83) score significantly higher than men (M = 3.04, SD = 0.90); CI [-0.59, -0.12].
Women (M =3.34, SD = 0.82) also score significantly higher than men (M = 3.02, SD = 0.78) on the construct of identification; CI [-0.53, -0.08].
For the constructs of benevolence, competence, and concern, we found no significant differences by gender.

2. BY AGE



From this boxplot comparing trust values for the age

groups as defined in the legend, we observe that the data for the first group is more skewed compared to the second one.
A possible explanation is that the first group has a significantly low number of respondents (26) but still crosses the threshold of 20 respondents.

	A	B	C	D	E	F
1		Benevolence	Integrity	Competence	Identification	Concern
2	Age_more_or_equal	3.1	3.23	3.21	3.23	3.28
3	Age_less_or_equal_	3.02	3.55	3.47	3.37	3.5
4	Age_more_or_equal	0.8	0.89	0.9	0.83	0.98
5	Age_less_or_equal_	0.82	0.65	0.54	0.71	0.78
6	t-statistic	t(207) = 0.47	t(39.47) = -2.21	t(44.57) = -2.09	t(203) = -0.8	t(203) = -1.09
7	p-value	0.6391	0.0327	0.0427	0.4272	0.276
8	95% C.I.	[-0.25 ; 0.41]	[-0.61 ; -0.03]	[-0.52 ; -0.01]	[-0.48 ; 0.2]	[-0.63 ; 0.18]
9	n	183_26	183_26	180_25	180_25	180_25

For the construct of integrity, the comparison is significant, with respondents who were 21 and older (M = 3.23, SD = 0.89) scoring lower than those who are 20 and younger (M = 3.55, SD = 0.65); CI [-0.61, -0.03].

Within the competence construct, individuals twenty-one and over (M = 3.21, SD = 0.89) scored significantly lower than those who are twenty- and younger (M = 3.47, SD = 0.54), CI [-0.52, -0.01].

No significant differences by age for the constructs benevolence, identification or concern were found.

3. BY USAGE FREQUENCY

We can immediately note that the median is higher across the board for people who use social media more than a few times a day.
The scores of people who use social media more than a few times have a pattern of left skewness in some of the parameters such as Integrity and Competence; whereas the scores of the people who use it once or less show a pattern of right skewness in some parameters like Competence, Identification.

	A	B	C	D	E	F
1		Benevolence	Integrity	Competence	Identification	Concern
2	Using_few_times_a_	3.11	3.32	3.28	3.29	3.42
3	Once_or_less mean	2.99	3.01	2.98	2.98	2.84
4	Using_few_times_a_	0.78	0.83	0.83	0.8	0.9
5	Once_or_less sd	0.84	0.97	0.98	0.82	1.07
6	t-statistic	t(211) = 0.89	t(211) = 2.22	t(207) = 2.11	t(207) = 2.39	t(69.98) = 3.44
7	p-value	0.3741	0.0273	0.0361	0.0178	0.001
8	95% C.I.	[-0.14 ; 0.37]	[0.04 ; 0.59]	[0.02 ; 0.58]	[0.05 ; 0.57]	[0.24 ; 0.91]
9	n	163_50	163_50	160_49	160_49	160_49

On the construct of integrity, the respondents who use social media a few times a day or more, called group 1 ($M = 3.31$, $SD = 0.78$) scored significantly higher than

the respondents who are online once a day or less, called group 2 (M = 3.01, SD = 0.97); CI [0.04,0.59].

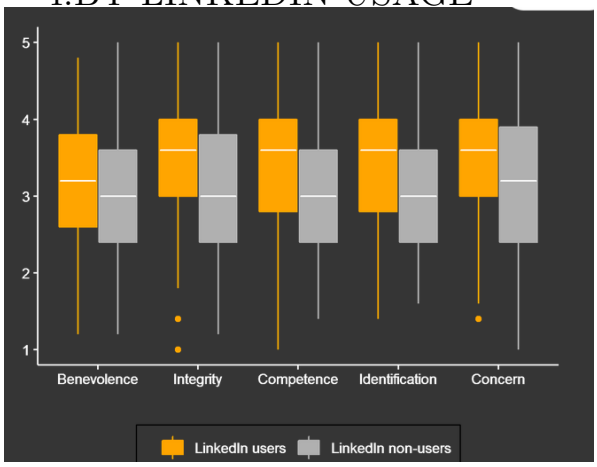
On the construct of competence, group 1 (M = 2.98, SD =0.98) scored significantly higher than group 2 (M = 3.29, SD = 0.83); CI [0.02,0.58].

On the construct of identification, group 1 (M =3.29, SD = 0.80), scored significantly higher than group 2 (M =2.98, SD = 0.82) on Identification, CI: [0.05,0.57].

On the construct of concern, Group 1 (M = 3.42, SD = 0.9]) scored significantly higher than group 2 (M = 2.84, SD = 1.07); CI [0.24,0.91].

Only the scores for Benevolence show no significant differences when comparing how often an individual uses social media.

4.BY LINKEDIN USAGE



We observe that the median is much higher for people

who use LinkedIn compared to those who don't. A reason might be that LinkedIn users are generally professionals who interact with other professionals in the site. So they expect the trust level to be high,
The scores look almost symmetric for almost all parameters of both the groups except a few of the linkedIn users group where they show very little left skewness.

	A	B	C	D	E	F
1		Benevolence	Integrity	Competence	Identification	Concern
2	LinkedIn_user mean	3.17	3.45	3.38	3.43	3.51
3	non-LinkedIn_user m	3.01	3.08	3.07	3.06	3.1
4	LinkedIn_user sd	0.79	0.79	0.87	0.74	0.89
5	non-LinkedIn_user sc	0.79	0.9	0.85	0.84	0.99
6	t-statistic	t(212) = 1.48	t(212) = 3.2	t(208) = 2.61	t(208) = 3.4	t(208) = 3.12
7	p-value	0.1416	0.0016	0.0098	8.00E-04	0.0021
8	95% C.I.	[-0.05 ; 0.37]	[0.14 ; 0.61]	[0.08 ; 0.54]	[0.16 ; 0.59]	[0.15 ; 0.67]
9	n	98_116	98_116	95_115	95_115	95_115

LinkedIn users (M = 3.45, SD = 0.79) scored significantly higher than non-users (M = 3.08,SD = 0.9) for the construct of integrity; CI [0.14,0.61].

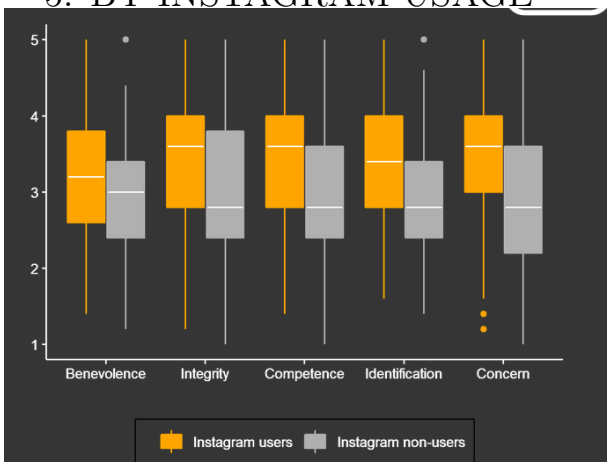
LinkedIn users (M = 3.38, SD = 0.87) also scored higher than non-users (M = 3.07, SD = 0.85) () on the construct of competence; CI [0.08,0.54].

Furthermore, LinkedIn users scored the highest on identification (M = 3.43, SD = 0.74) compared to non-users (M = 3.06,SD = 0.84); CI [0.16,0.59].

Additionally, LinkedIn users (M = 3.51,SD = 0.89) scored higher than non-users (M = 3.10, SD = 0.99) on the construct of concern; CI [0.15,0.67].

No significant differences were found between users and non-users for the construct of benevolence.

5. BY INSTAGRAM USAGE



The scores of the group of instagram users have quite higher median than the no instagram users in each parameter. We can say that instagram users expect more trust and a reason might be that since instagram users post their pictures and see fellow instagrammers do the same their trust level is higher than others.

	A	B	C	D	E	F
1		Benevolence	Integrity	Competence	Identification	Concern
2	Instagram_user mear	3.18	3.38	3.37	3.35	3.49
3	non-Instagram_user r	2.89	2.99	2.93	3	2.92
4	Instagram_user sd	0.78	0.81	0.82	0.82	0.92
5	non-Instagram_user s	0.79	0.93	0.89	0.76	0.94
6	t-statistic	t(212) = 2.59	t(212) = 3.19	t(208) = 3.62	t(208) = 3.05	t(208) = 4.23
7	p-value	0.0102	0.0017	4.00E-04	0.0026	0
8	95% C.I.	[0.07 ; 0.51]	[0.15 ; 0.63]	[0.2 ; 0.68]	[0.12 ; 0.58]	[0.3 ; 0.83]
9	n	140_74	140_74	136_74	136_74	136_74

Instagram users (M = 3.17, SD = 0.78) scored significantly higher than non-users (M = 2.89, SD = 0.78). for

the construct of benevolence; CI [0.07,0.51].

Furthermore, Instagram users (M = 3.37, SD =0.80) scored significantly higher than non-users (M = 2.98, SD = 0.93). for the construct of integrity; CI [0.15,0.63].

For the construct of competence, Instagram users (M = 3.36, SD = 0.82) scored significantly higher than non-users (M = 2.93, SD = 0.89); CI [0.28,0.63].

For the identification construct, Instagram users (M = 3.35, SD = 0.81) scored significantly higher than non-users (M = 3.00, SD = 0.75); CI [0.12,0.58].

Finally, Instagram users (M = 3.49, SD = 0.92) also scored significantly higher than non-users (M = 2.92, SD = 0.94) for the construct of concern; CI [0.3,0.83].

5 Discussions conclusions

Some sources of error:

- The analysis had some computational and typographical errors, which have been corrected for the purposes of this presentation. This leads to some minor changes in the conclusions formed based on the study.
- The questionnaire was propagated exclusively among university students and faculty who are much more likely to come from a financially secure background and thus have access to more technology.
- Ages of the respondents ranged from 19 to 67, however it was mostly concentrated in 20-30 year old demographic. As such, the older age group is underrepresented in the study.

The goal of this research was to explore whether social media users' perceptions and expectations of trust differ with respect to their gender, age, social media usage, and social media sites preference.

First we discuss the differences in each parameter:

- BENEVOLENCE: the results for the trust construct Benevolence, defined as "one [who] cares about the welfare of the other person and is therefore motivated to act in the other person's interest", showed that social media preference is a significant factor. From

our study, we found that Instagram users score significantly higher than non-users did in the construct of Benevolence: This indicates that Instagram users may believe to a greater degree than non-users that people are willing and motivated to serve and act in other people's interest.

- INTEGRITY: the results showed that gender, age, social media usage and social media site preference all are significant factors impacting our expectations of honesty and moral character. Females, individuals twenty years and younger, individuals using social media more than once a day, LinkedIn-, and Instagram users score significantly highest in expecting moral behavior.
- COMPETENCE: Competence is defined as having the ability or power to do for one that which needs to be done, and individuals twenty-one years and older, individuals using social media sites more than once a day, LinkedIn users and Instagram users scored significantly higher for this construct. These findings support the findings of Jarvenpaa, Tractinsky and Saarinen (1999) that very tentatively suggest that greater experience with social media is associated with lower trust and that reputation and integrity are significant factors in internet behavior.
- IDENTIFICATION: Results for the construct of Identification indicate that gender, social media usage and preference are all significant factors. Identification is defined as the extent to which we hold common goals, norms, values, and beliefs associated

with belonging to an organization or group. Females scored significantly higher than men on this construct, in addition to that individuals using social media sites more than once a day, and those who use LinkedIn and Instagram, score the highest.

- CONCERN Individuals who use social media a few times a day or more, had significantly higher expectations for Concern compared to individuals who use social media once a day or less. Furthermore, LinkedIn users and Instagram users score significantly higher in Concern compared to non- users.Those who use social media less often may not believe people are genuinely concerned about others in their network; they may also perceive less Concern towards others when they are vulnerable or less experienced in navigating their network.

Now we talk about some general conclusions:

In a nutshell, the results of our study showed that younger, female, heavy users of social media are more inclined to trust the content on social media. They believe that most people care about the welfare of others, they are less skeptical about others' competence, have a stronger sense of belonging to their network and believe people are genuinely concerned about others in their network. Women scored highest in attitudes of Identification, and users twenty and younger are less skeptical about others' competence, than those twenty-one and over.

Social media site preference is a significant factor in perceptions of Benevolence, whereas perceptions of Integrity differ by gender, age, social media usage and social media site preference. The sample suggests that the sense of Identification to your network differed significantly with gender, social media usage and preference. How often social media are used and which social media sites are used show differences in trust levels and concern about others in their networks. How often social media are used, Instagram usage, LinkedIn usage and age, impact perceptions of Competence.

Online users allow access to a lot of information about themselves to others (e.g., their personal backgrounds, their contacts, interests, opinions, music tastes, political affiliations, etc.). This information can reduce uncertainty and build trust. As more experienced users share more information about themselves in social media with a greater number of followers, it intuitively makes sense that they build trust over a longer time period and this fits with our findings. If at any time the news information is perceived to be false or misleading however, these postings may lead to distrust in the site or the sender. Therefore, the more we use social media to get to know others, the more we may trust them.

To return to our original question 'who trusts newsfeeds in social media', our findings suggest that this would be females, individuals who are twenty or younger, and more frequent social media users, and also those who use Instagram and LinkedIn.

6 Our Survey

To extend the study we extend the dataset to include the student community in India. For that we shared the same survey with people in our reach through social media. We use the same setup as before to do statistical analysis. This will be interesting in a broader sense since we can compare the two countries.

First of all we determine the sample size by a formula done in class. We will go with integrity scores to determine the target sample size as they were seen to have the most significant differences in the original study. We want to know the mean of integrity scores with atmost 0.15 sampling error with 95percent confidence.

In original study the variance of the score was 0.76. So by sampling error formula our n should be atleast:

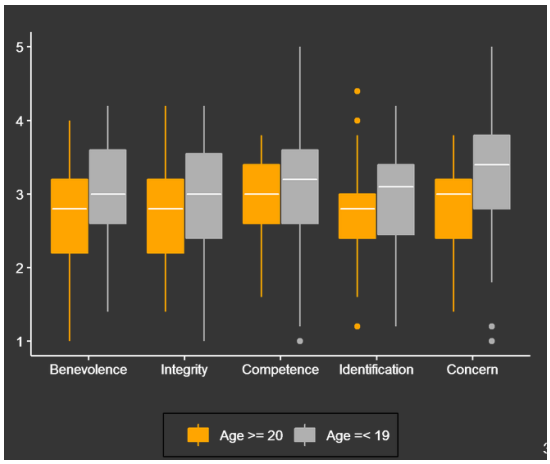
$$\frac{1.96^2 * 0.76}{0.15^2} = 130$$

We ended up accepting 119 survey applications after excluding outliers because of our limited reach to the society.

6.1 Analysis

We do a similar analysis, breaking the sample by different parameters and analysing for any significant difference.

1. BY AGE:



The median values are higher for the younger population.

Some boxplots for the older group are skewed but it can be explained by the the very low sample size.

This is the opposite of the findings for Norway in the original study.

While the difference in sample sizes in a plausible explanation for this finding, another explanation could be the access to cheaper smartphones and internet in India and awareness spreading among the younger population.

	A	B	C	D	E	F
1		Benevolence	Integrity	Competence	Identification	Concern
2	Age_more_or_equal	2.78	2.8	3.02	2.81	2.8
3	Age_less_or_equal_	2.98	2.92	3.13	2.97	3.26
4	Age_more_or_equal	0.72	0.69	0.57	0.67	0.56
5	Age_less_or_equal_	0.65	0.71	0.77	0.65	0.79
6	t-statistic	t(117) = -1.51	t(117) = -0.87	t(117) = -0.82	t(117) = -1.26	t(107.51) = -3.67
7	p-value	0.1333	0.3849	0.4162	0.2096	4.00E-04
8	95% C.I.	[-0.45 ; 0.06]	[-0.39 ; 0.15]	[-0.38 ; 0.16]	[-0.41 ; 0.09]	[-0.71 ; -0.21]
9	n	41_78	41_78	41_78	41_78	41_78

nly the construct of concern shows a significant difference. CI (-0.69,-0.02).

There is no significant differences in the constructs of Benevolence, Integrity, Competence and Identification.

2.BY LINKEDIN

Median of non LinkedIn users is either equal or greater than the other set.

This is again different from the norway's analysis.

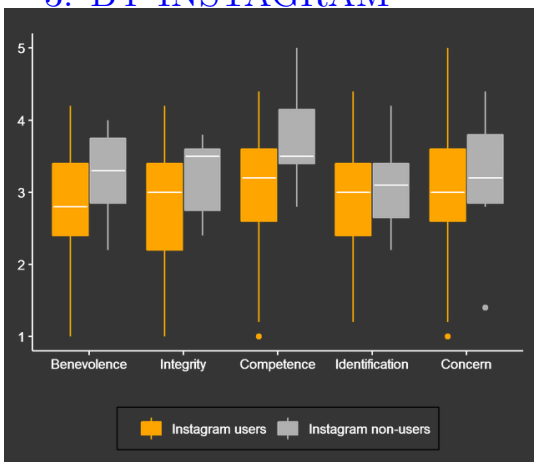
	A	B	C	D	E	F
1		Benevolence	Integrity	Competence	Identification	Concern
2	LinkedIn_user mean	2.78	2.84	2.99	2.83	3.12
3	non-LinkedIn_user m	3.04	2.93	3.19	3	3.08
4	LinkedIn_user sd	0.7	0.74	0.73	0.65	0.69
5	non-LinkedIn_user sc	0.63	0.66	0.67	0.66	0.81
6	t-statistic	t(117) = -2.1	t(117) = -0.69	t(117) = -1.58	t(117) = -1.38	t(117) = 0.26
7	p-value	0.038	0.4896	0.1162	0.1687	0.7991
8	95% C.I.	[-0.5 ; -0.01]	[-0.34 ; 0.17]	[-0.46 ; 0.05]	[-0.4 ; 0.07]	[-0.24 ; 0.31]
9	n	59_60	59_60	59_60	59_60	59_60

n1 = 59, n2 = 60 Only benevolence parameters' scores

significantly different. C.I [-0.5,-0.01]

Rest parameters have non significant differences.

3. BY INSTAGRAM



Non Instagram users show higher median in the scores than the instagram users.

Again, India is showing different trends to that of Norway and we suspect that the reason behind it maybe cultural.

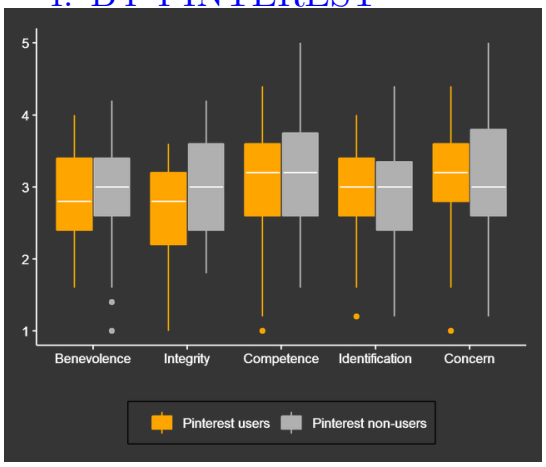
	A	B	C	D	E	F
1		Benevolence	Integrity	Competence	Identification	Concern
2	Instagram_user mear	2.88	2.85	3.04	2.9	3.09
3	non-Instagram_user r	3.24	3.22	3.7	3.1	3.24
4	Instagram_user sd	0.68	0.71	0.68	0.66	0.75
5	non-Instagram_user s	0.59	0.55	0.7	0.64	0.84
6	t-statistic	t(117) = -1.62	t(117) = -1.6	t(117) = -2.93	t(117) = -0.93	t(117) = -0.61
7	p-value	0.1069	0.1122	0.004	0.3525	0.5431
8	95% C.I.	[-0.8 ; 0.08]	[-0.82 ; 0.09]	[-1.11 ; -0.22]	[-0.63 ; 0.23]	[-0.65 ; 0.34]
9	n	109_10	109_10	109_10	109_10	109_10

N1 = 109, N2 = 10 Only competence parameter has sig-

nificant difference. CI: [-1.11,-0.22]

Other parameters don't show significant difference.

4. BY PINTEREST

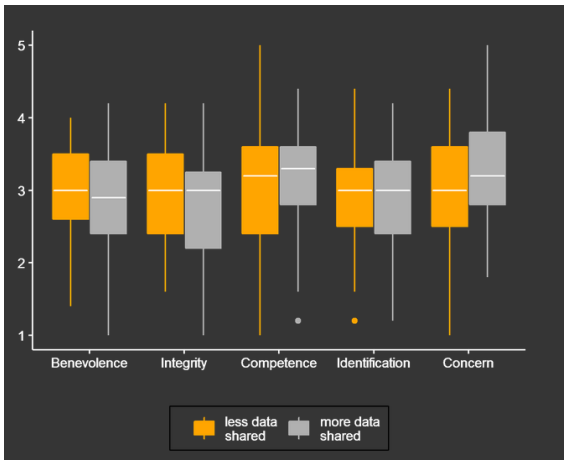


Median of both the groups are almost equal but non users have higher in Benevolence and Integrity but lower in Concern.

	A	B	C	D	E	F
1		Benevolence	Integrity	Competence	Identification	Concern
2	Pinterest_user mean	2.86	2.72	3.02	2.96	3.11
3	non-Pinterest_user m	2.94	3	3.14	2.88	3.09
4	Pinterest_user sd	0.66	0.69	0.71	0.68	0.72
5	non-Pinterest_user sc	0.69	0.69	0.7	0.64	0.78
6	t-statistic	t(117) = -0.65	t(117) = -2.17	t(117) = -0.88	t(117) = 0.62	t(117) = 0.16
7	p-value	0.5199	0.0324	0.3819	0.5351	0.8712
8	95% C.I.	[-0.33 ; 0.17]	[-0.53 ; -0.02]	[-0.38 ; 0.15]	[-0.17 ; 0.32]	[-0.26 ; 0.3]
9	n	49_70	49_70	49_70	49_70	49_70

Only Integrity construct has a significant difference. CI: [-0.53,-0.02]

5. BY AMOUNT OF DATA SHARED



This is the number of data points out of those specified in the survey that the respondent has shared on their social media. Less data shared means that 3 or less data points have been shared, and more means 4 or more.

We can observe that the median of both the groups on each construct is more or less the same.

	A	B	C	D	E	F
1		Benevolence	Integrity	Competence	Identification	Concern
2	Less_shared mean	2.93	2.95	3.04	2.87	2.94
3	More_shared mean	2.88	2.8	3.17	2.97	3.3
4	Less_shared sd	0.66	0.69	0.75	0.64	0.76
5	More_shared sd	0.7	0.71	0.65	0.68	0.7
6	t-statistic	t(117) = 0.46	t(117) = 1.13	t(117) = -0.99	t(117) = -0.75	t(117) = -2.66
7	p-value	0.6485	0.2612	0.3227	0.4571	0.0089
8	95% C.I.	[-0.19 ; 0.31]	[-0.11 ; 0.4]	[-0.39 ; 0.13]	[-0.33 ; 0.15]	[-0.63 ; -0.09]
9	n	67_52	67_52	67_52	67_52	67_52

Concern is the only significant difference: CI: [0.09,0.63]

6.2 Discussions and Conclusions

SOURCES OF ERRORS:

Selection Bias: The questionnaire was shared in electronic form, and hence all respondents were known to be internet users beforehand.

The questionnaire was propagated in a word of mouth fashion, and was mostly done peer-to-peer using WhatsApp and Instagram, so some respondents were known to be users of at least one social media platform, Instagram.

Ages of the respondents ranged from 17 to 24, which leads to no representation of the older age brackets, an issue which the original study avoided by having faculty and staff members in the sample.

While the original study had 214 respondents, our study only had 119 respondents, which doesn't meet the 3:1 target explained earlier.

The survey was conducted amidst of the COVID-19 pandemic and most people have had increased social media presence in the past few months because of the lockdown.

- People who generally use more social media sites expect lower trust levels. A plausible explanation is that the population we sampled from is becoming aware of social media threats.

- Respondents who shared their mobile number online generally showed a higher trust value in all the constructs with there being a significant difference in competence ($p = 0.002$).
- We can say that the scores of concern parameter is affected both by the age of the people and amount of data shared.
  Whereas Benevolence, Integrity, Competence is affected by the number of social media sites used.
- We can say that younger individuals who do not use many social media sites and who tend to share personal data online tend to show more trust on the internet.

6.3 Comparision

Now getting to a very important part of extending the study, we have to compare both countries' analysis. We have seen some clear differences in both the country's data. Let us analyse them statistically.

We observe that Norwegian people tend to have higher median in almost every construct than Indian people.

A very plausible reason for this might be the cultural differences between the two countries.

Other than that the data looks almost symmetric with little to no skewness irrespective of the country.

	A	B	C	D	E	F
1		Benevolence	Integrity	Competence	Identification	Concern
2	..Original mean	3.08	3.25	3.21	3.22	3.29
3	Collected mean	2.91	2.88	3.09	2.91	3.1
4	..Original sd	0.79	0.87	0.87	0.81	0.96
5	Collected sd	0.67	0.7	0.71	0.66	0.75
6	t-statistic	t(334) = 2	t(288.88) = 4.17	t(286.91) = 1.36	t(289.2) = 3.77	t(295.5) = 1.96
7	p-value	0.0465	0	0.1746	2.00E-04	0.0506
8	95% C.I.	[0 ; 0.34]	[0.19 ; 0.54]	[-0.05 ; 0.29]	[0.15 ; 0.47]	[0 ; 0.38]
9	n	215_121	215_119	212_119	211_119	211_119

As we have already mentioned there were some sources of bias including Selection bias and lower sample size.

6.4 Conclusions of the comparision

- Ignoring the above source of errors, we see that there are significant differences in constructs of Benevolence, Integrity and Identification.
- Norwegian people seem to have higher trust expectations on the internet than Indian people.
- Some plausible reasons might be:
  1. Cultural differences between the two countries.

2. Rising awareness of the threats of social media.
3. More social media use post-covid restrictions (lock-down).

7 Where to go with the project

7.1 Theoretical

These findings are important for researchers and practitioners alike, because little is known about online trust and social media news. Many researchers have examined social media behavior patterns. With trust at the epicenter of our study, we theoretically extend the trust literature by addressing the gap with deeper insight into individual differences in online trust and social media behavior.

This knowledge serves as the foundation for future research efforts on social media and trust. The results of this study may help users navigate online interaction and expectations of 'truth' more successfully.

The implications of understanding users' trusting or not trusting news both off and online will be even more critical for media organizations, companies and consumers in the future.

7.2 Practical

Internet use is capturing more hours each day of people's time with an average user spending 4.25 hours daily on the internet, including 25 percent of total Internet time spent on a social network (GlobalWebIndex, 2016). On average, a person now has five social networking accounts and is actively using three of them(GlobalWebIndex, 2016).

Understanding which social media newsfeeds that we trust to use may then change human behavior and social norms, such as intergroup prejudice and lower conflict in the world (Paluck, 2009). Empirical evidence shows that trust is a social behavior that is impacted by situational variables, rather than being a relatively constant personality trait (Schlenker, Helm Tedeschi, 1973; Wieselquist el al., 1999). Moreover, trust in the online environment is characterized by greater complexity such as trust in websites vs. trust in technology, and a need for assurances of security and privacy (Pentina, Zhang, Basmanova, 2013).

THANK YOU!!

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